CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-42

WASTE DISCHARGE REQUIREMENTS FOR:

DEPAOLI EQUIPMENT COMPANY, INC.,
RALPH PROPERTIES, INC.,
EASTERN ALAMEDA COUNTY LANDFILL (VASCO ROAD)

The California Regional Water Quality Control Board, San Francisco Bay Region, (herinafter called the Board), finds that:

1. Ralph Properties, Inc., the site legal owner, and DePaoli Equipment Company, Inc., the landfill operator, (hereinafter referred to collectively as the discharger) by application dated June 1984 has applied for revision of their current Waste Discharge Requiremnents (WDR), that includes the expansion of their existing facility, for the operation of a Class III landfill on approximately 297 acres north of Livermore in Eastern Alameda County. The project site, as shown on Attachment A, which is incorporated herein and made a part of this Order, is located approximately one half mile east of North Vasco Road near Livermore.

2. The landfill will eventually occupy, including the existing fill area, approximately 297 acres. The project has an approximate lifetime of 22 years, at a disposal rate of approximately 1086 tons of refuse and construction debris per day with a minimum of 4% increase in disposal rate per year.

3. The discharger proposes to accept at this landfill for disposal approximately 590 tons per day of residential and commercial nonhazardous refuse, including the solid waste stream from the city of Berkeley, and 496 tons per day of construction debris. No liquid wastes(i.e. less than 50% solids) will be disposed of at this site.

4. The landfill and expansion area lies within the Northern Diablo Range along the Altamont anticline. The eastern portion of the site is underlain to the east by the Panoche Formation and to the west by the Cierbo Formation. The Panoche Formation consists of two seperate units. The first consists of clayey, micaceous shale and siltstone with some locally occuring sandstone interbeds. The second unit consists of resistant sandstone beds with interbedded shale and siltstone. The laboratory permeability of the Panoche Formation ranges from approximately 1.4×10^{-8} cm/sec. to 1.2×10^{-7} cm/sec and the in-situ permeability of this formation ranges from 2.9×10^{-4} cm/sec to 1.4×10^{-6} cm/sec.

5. The Cierbo Formation consists of fine to coarse grained sandstone with some interbeds of shale and siltstone. This formation occurs under a small portion of the western edge of the expansion area. The laboratory permeability of this unit ranges from approximately 1×10^{-5} cm/sec to 1×10^{-6} cm/sec with in-situ permeability being approximately 3.0×10^{-6} cm/sec. The majority of the expansion area is underlain by the less permeable Panoche Formation.

6. The nearest active fault to the site is the Eastern Strand of the Greenville fault which is located along the western boundary of the expansion area. The main trace of the Greenville fault lies approximately 800 feet to the west of the Eastern Strand along Vasco Road. The limit of the waste fill boundary has been adjusted to provide a 50 foot setback from the Eastern Strand fault so that no wastes will be placed on this fault. The April 10, 1986 report, prepared by J. H. Kleinfelder & Associates and submitted by the discharger as part of their Report of Waste Discharge (ROWD) pursuant to Title 23, Chapter 3, Subchapter 15 of the California Administrative Code (Subchapter 15), indicates that there may be another unnamed fault located along the Eastern boundary of the site. This report did not adequately determine if this fault is a Holocene fault and this Order requires an additional investigation be performed to make this determination and to modify the site operation plans to appropriately address this fault or offset zone, if it is determined to be Holocene.

7. Groundwater occurs at the site in three different formations. The first source of groundwater is in the alluvial filled drainages. Groundwater was encountered in the surficial alluvium at depths ranging from 5 to 7.5 feet below the ground surface. This groundwater flows, and occurs, in the alluvium that is approximately coincident with the site topography. This groundwater is perched above the underlying bedrock and there may not be a minimum of 5 feet of separation between this water and where the waste is proposed to be placed. The operation plans propose the construction of a five foot barrier to ensure the 5 foot separation between this groundwater and the wastes.

8. Groundwater in the Panoche Formation occurs in limited quantities at a depth of approximately 200 feet below the ground surface. This formation is classified as a non- water bearing formation and it is difficult to obtain useable quantities of the groundwater found in this formation. There is currently no use of this groundwater and future development of this groundwater as a water supply is unlikely. There is also sufficient separation between this groundwater and the waste disposal operations to prevent infiltration into refuse or contamination by leachate migration.

9. Groundwater also occurs in the Cierbo Formation and water levels in monitoring wells installed in this formation indicate that the static water level ranges from 11 to 18 feet below the existing ground surface. There are also artesian conditions in one well installed in this formation at a lower elevation near the toe of the existing fill area. This well is used for domestic supply, stock watering, and monitoring of the fill area.

10. Background water quality levels for several indicator parameters has been established from analysis of water samples from the surficial alluvium deposits, the Cierbo Formation, and the surface runoff at the site. This data was collected over a four month period between February and June instead of over a period of a year as required by Subchapter 15. Therefore, the Water Quality Protection Standards (WQPS) established in this Order may not represent seasonal fluctuations in groundwater quality, and should be reviewed after one year of additional data is collected. Generally, the WQPS established in this Order should be indicative of background water quality.

11. Groundwater wells within a mile of the site are found mainly in separate drainage basins from the landfill. These wells draw groundwater from surficial alluvial deposits from within these separate drainage basins and will not be affected by the landfill disposal operations. There is adequate separation between groundwater found in the Cierbo and Panoche Formations and the waste disposal operation to assure that the disposal operation will not impact the beneficial uses of this groundwater.

12. Based on the separation of the waste disposal operation from the groundwater found in the Cierbo and Panoche Formations, the limited groundwater found in the alluvial deposits in the disposal site drainage basin, and the proposed operations plan for the landfill, as described in this Order, this landfill meets the geologic siting standards of Subchapter 15. These standards require adequate separation between the waste disposal operation and waters of the State so as to not impact beneficial uses of these waters.

13. Surface runoff from the site serves as recharge for the groundwater found in the alluvial deposits in the drainage basin.

14. The beneficial uses of the useable groundwater found in the Cierbo Formation and the surficial alluvial deposits of the drainage basins, at and around the landfill site, are:

    a. Domestic water supply
    b. Stock watering
    c. Irrigation

15. The discharger submitted, as a part of their Report of Waste Discharge, the following reports: 1) Revised Report of Disposal Site Information, October 1984, 2) Eastern Alameda County Disposal Site (J.H. Kleinfelder & Associates) June 1984, 3) Hyrogeologic Investigation (J.H. Kleinfelder & Associates) October 15, 1985, and 4) Supplemental Site and Facility Information Report (J.H. Kleinfelder & Associates) April 10, 1986. The above cited reports, as modified by the requirements of this Order, propose to construct and operate the landfill in accordance with the requirements of Subchapter 15 and are hereby incorporated as a part of this Order.

16. The Closure Plan section of the discharger's Report of Waste Discharge is deficient in two areas. First, the plan failed to provide for the establishment of two permanent monuments from which the the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post closure maintenance period. The closure plan also failed to provide evidence of an irrevocable closure fund or other means to ensure closure and post-closure maintenance according to the closure plan.

17. The discharger was required by their existing Waste Discharge Requirements, this Board's Order No. 78-112, to submit by January 1, 1980, a closure plan for the area of the disposal site covered by Order No. 78-112. This closure plan was not submitted until April 10, 1986 as part of the Report of Waste Discharge for the expansion of the disposal site. Additionally, the closure requirements for a Class III landfill, outlined in Subchapter 15, were changed in November 1984 to include an additional one foot of foundation material in the final cover. Portions of the exisiting fill area were provided with a cover that meets the requirements of this Board's Resolution No. 77-7 which was in effect before the revision of Subchapter 15. It is infeasible to remove the in-place cover material, and place an additional one foot of foundation material beneath it, as would be necessary to comply with the cover requirements of the new Subchapter 15. An additional foot of cover over this 3 foot cover may be required in the future, if leachate levels or water quality measurements suggest that this is needed. The discharger proposes that the remaining portion of the existing fill area, and the expansion fill area, will be covered with 4 feet of cover materials as specified in the revised Subchapter 15.

18. The Regional Board adopted a revised Water Quality Plan for the San Francisco Bay Basin on July 1, 1982 and this Order implements the water quality objectives stated in that plan.

19. The Alameda County Planning Department, as lead agency, adopted a final Environmental Impact Report on June 8, 1983 for the expansion of this landfill, and a Negative Declaration for the disposal of the solid waste stream from the City of Berkeley at this landfill on January 22, 1986, as required under the California Environmental Quality Act (CEQA). This report identifies the following adverse impacts relative to water quality:

    a. Leachate could enter groundwater and cause degradation

    b. Fault rupture on the Eastern Strand of the Greenville Fault could allow leachate migration

    c. Ground shaking from an earthquake could cause slope failure and disruption of leachate control/monitoring devices

    d. Surface water erosion and infiltration into refuse to create leachate

    The following measures will mitigate the identified adverse impacts:

    a. Groundwater Degradation

        The site will not be accepting any liquid waste and will be operated to prevent infiltration of surface runoff to prevent the generation of leachate. The site will also be provided with a five foot barrier between the waste and the underlying groundwater, wherever the minimum separation requirement is not met.

        Design and operation of the landfill based on natural geologic conditions and in accordance with Subchapter 15 will ensure containment of landfill waste, minimize leachate production, and prevent adverse impacts on surface and groundwater quality.

        Installation of a leachate collection at the toe of the landfill. This will include monitoring and removal of leachate, should any be produced.

        Monitoring of downstream groundwater with wells to insure the integrity of containment structures and leachate monitoring and control facilities.

b & c. Seismic Impacts

No wastes will be placed within 50 feet of the Eastern Strand of the Greenville fault. The site will be constructed to prevent migration of leachate into the fault zone and will be maintained to repair any damage to leachate control and monitoring facilities that may result from an earthquake.

d. Leachate Generation

Construction of drainage improvements to direct surface runoff away from refuse disposal operations.

Compliance with the regulations and standards contained in Subchapter 15 and waste discharge requirements adopted by the Board.

20. The discharger has expressed an interest in accepting metal shredder waste, a designated waste, for disposal at this site. The discharger has agreed to separate the metal shredder waste from decomposible wastes by creating a separate waste disposal cell for the disposal of metal shredder waste. This site is suitable for the disposal of metal shredder waste provided the discharger submits an amended operations plan that will separate the metal shredder wastes from decomposible waste, provide adequate separation from the underlying groundwater, and keep leachate from decomposible waste from contacting the metal shredder waste.

21. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

22. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Ralph Properties, Inc and DePaoli Equipment Company, Inc., and any other persons that currently or in the future own this land or operate this facility, shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the following:

A. PROHIBITIONS

1. The disposal of waste shall not create a pollution or nuisance as defined in Section 13050(l) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.

3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharger into waters of the State or of the United States.

4. Hazardous and designated wastes as defined in Sections 2521 and 2522 of Subchapter 15, and high moisture content wastes (including sewage sludge, septic tank waste and wastes containing less than 50% solids), shall not be deposited or stored at this site, except as provided for in Provision C.20.

5. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

   a. Surface Waters

      1. Floating, suspended, or deposited macroscopic particulate matter or foam.

      2. Bottom deposits or aquatic growth.

      3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.

      4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

      5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

   b. Groundwater

      1. The groundwater shall not be degraded as a result of the waste disposal operation.

6. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or the United States.

B. SPECIFICATIONS

1. Water used during disposal operations shall be limited to a minimal amount necessary for dust control and fire suppression.

2. The site shall be protected from any washout or erosion of wastes or covering material and from inundation which could occur as a result of a 100 year 24 hour precipitation event.

3. Surface drainage from tributary areas, and internal site drainage from surface and subsurface sources, shall not contact or percolate through wastes during disposal operations or during the life of the site. Drainage ditches constructed over refuse fill will be underlain with a minimum 5-foot thickness of compacted earthfill.

4. Permanent leachate control facilities shall be constructed at the toe of the existing fill area. Measures shall be taken to ensure that leachate in the leachate collection system can flow freely into the collection sump. Measures shall also be taken to assure that leachate collection sumps and extraction wells will remain operational permanently.

5. The leachate monitoring and control system shall be maintained and operated to prevent the buildup of hydraulic head on the bottom of the landfill as well as the toe of the landfill. This system shall be inspected monthly, and any accumulated fluid shall be removed.

6. The site shall be operated to ensure that all wastes will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater.

7. A geologic map of the base of the excavation shall be continously updated as excavation proceeds. All fracture zones and cracks, areas where there is not a 5 foot separation between groundwater and the bottom of the excavation, and areas of the landfill underlain by the Cierbo Formation that may not have a laboratory permeability below 10^{-6} cm/sec, which might allow leachate to migrate into the underlying groundwater shall be clearly marked. Any of these areas which require artificial sealing shall be sealed with a 5 foot thick barrier of earth fill with a one foot thick clay liner that has a maximum in-place permeability of 10^{-6} cm/sec.

8. The discharger shall ensure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

9. As portions of the landfill are closed, the exterior surfaces shall be graded to a minimum slope of three percent in order to promote lateral runoff of precipitation. In addition, all completed disposal areas shall be covered with a minimum of 4 feet of cover and meet other applicable requirements as described in Article 8 of Subchapter 15.

10. The discharger shall operate the waste management facility so as not to cause a statistically significant difference to exist between water quality at the compliance points and the following Water Quality Protection Standards. The compliance points are identified as monitoring wells MW-3, MW-20, SW-1, SW-2, SW-3, and MW-17, in the attached self-monitoring program. The background water quality monitoring points are identified as MW-1942, MW-13, MW-19A, MW-19B, and MW-17. (Note: MW-17, 19A, 19B are currently being used as a background monitoring locations. As refuse disposal operations proceed up the valley these wells will become compliance points.)

		Monitoring Well Number		
		MW-13	MW-17	MW-19B
a.	pH=	7.87	7.70	7.83
b.	Specific Conductivity=	940	750	857
c.	Chloride=	75.7	69.3	93.0
d.	Total Organic Carbon=	11.0	9.7	11.0
e.	Nitrate Nitrogen=	8.6	3.0	1.2
f.	Total Kjeldahl Nitrogen=	<1.0	<1.0	<1.0
g.	Phenol=	<0.005	<0.005	<0.005
h.	Total Disolved Solids=	537	447	477

11. The discharger shall install any additional groundwater and leachate monitoring devices required to fulfill the terms of any Self-Monitoring Program issued to the discharger in order that the Board may evaluate compliance with the conditions of this Order.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, except Prohibition A.4 as it relates to dewatered sewage treatment sludge and Specifications B.4 and B.5, immediately upon adoption of this Order. At least 30 days prior to commencement of filling of a specific area of the site the discharger shall submit a report indicating complinace with all Prohibitions, Specifications, and Provisions of this Order. This shall include as-built construction diagrams and certification. Filling of the area described in the report shall not commence until the Executive Officer approves this report based on its demonstration of compliance with this Order.

2. The discharger shall submit a redesign of their submitted leachate collection and monitoring system, to assure compliance with Specifications B.4 and B.5, by August 1, 1986. This redesign shall address the following items:

   a. Redesign the excavation plan to provide for smaller waste disposal cells and to provide positive drainage towards a low spot in each cell. This redesign of the excavation plan should also provide for the diversion of all surface runoff away from the disposal operation to assure compliance with Specification B.3.

   b. Installation of leachate monitoring/extraction wells at this low spot in each cell that is excavated and developed for waste disposal. The leachate monitoring plan should also propose the installation of additional leachate monitoring wells in the existing fill area that will determine the depth of leachate that has accumulated in this area; including at a minimum one well at the top of the slope that forms the toe of the landfill.

   c. Redesign of the leachate collection trench and sump at the toe of the landfill to eliminate collecting any alluvial groundwater and assure the extraction of leachate.

3. The discharger shall complete the installation of the leachate collection trench and sump at the toe of the landfill by November 1, 1986, and achieve full compliance with Specifications B.4 and B.5 at this date.

4. The discharger shall comply with Prohibition A.4 by November 1, 1986. Compliance shall be achieved by eliminating disposal of dewatered sewage treatment sludge or by demonstrating to the Executive Officer that they are complying with Sections 2523 c) and 2543 of Subchapter 15.

5. The discharger shall further investigate the evidence of a fault, found in exploration trench No. TP-30 of the April 10, 1986 J.H. Kleinfelder report, before disposal operations in the expansion area begin. This investigation should determine if there is a Holocene Fault and the location of the fault zone. If the investigation determines that the fault is Holocene the discharger shall submit an amended Report of Waste Discharge that will modify the construction and operation of the landfill to assure that no wastes will be disposed of on the fault. Waste disposal shall not commence in the expansion area until the Executive Officer approves the report of this investigation.

6. The discharger shall redesign the final surface drainage plan for the site by January 1, 1987. The redesign should eliminate the placement of the pond at the upgradient (Eastern) edge of Phase IV to prevent recharge from this pond into the refuse placed in Phase IV. The redesign should also provide for a minimum slope of three percent for the cover and drainage swale from this pond that flows over the cover of Phase IV.

7. The discharger shall file with the Regional Board quarterly self-monitoring reports performed according to any self-monitoring program issued by the Executive Officer.

8. The discharger shall submit a proposal by September 1, 1986 for a periodic load checking program which will discover and discourage attempts to place hazardous and designated wastes in the disposal areas.

9. The discharger shall periodically submit an updated geologic map as described in Specification B.7. The discharger shall evaluate each area of the landfill, including the remaining portion of the existing fill area, to determine the separation between wastes and underlying groundwater, the permeability and thickness of the soils separating wastes from groundwater, the location of any cracks or fractures that may act as migratory pathways for leachate, and recommend one of the following: 1) The potential for leachate migration is small and no further action is necessary, 2) the potential for leachate migration is significant and unsaturated zone monitoring devices should be installed to monitor this possibility, or 3) significant leachate

migration appears likely and therefore an artificial seal should be placed over the disposal area and unsaturated zone monitoring devices installed beneath the liner to monitor the leachate migration. If the discharger recommends 2) or 3) no refuse shall be placed on the newly mapped excavation until the recommendation has been reviewed and written authorization to proceed has been granted by the Executive Officer. If the discharger recommends 1), no refuse shall be placed on the newly mapped excavation until the map and the recommendation have been in the possession of the Regional Board staff for at least 10 working days. The Executive Officer, may, at his discretion, extend this period of review by so informing the discharger. The Executive Officer's authorization shall be based on the discharger's demonstration that there will not be leachate migration into the underlying groundwater.

10. All reports pursuant to these Provisions shall be prepared under the supervision of a registered civil engineer or certified engineering geologist.

11. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

12. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.

13. The discharger shall maintain a copy of this Order at the site so as to be available at all time to site operating personnel.

14. This Board considers the property owner and site operator to have continuing responsiblity for correcting any problems which arise in the future as a result of this waste discharge or related operations.

15. The discharger shall maintain all devices or designed features installed in accordance with this Order such that they continue to operate as intended without interuption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.

16. The discharger shall permit the Regional Board or its authorized representitive, upon presentation of credentials:

    a. Entry upon the premises on which wastes are located or in which any required records are kept.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

d. Sampling of any discharge or groundwater covered by this Order.

17. This Board's Order No. 78-112 is hereby rescinded.

18. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

19. The discharger shall submit a dynamic or pseudo-static analysis which, within the limits of engineering analysis, shows that Specification B.8 will be complied with. No refuse shall be placed in the expansion area until this analysis has been approved by the Executive Officer.

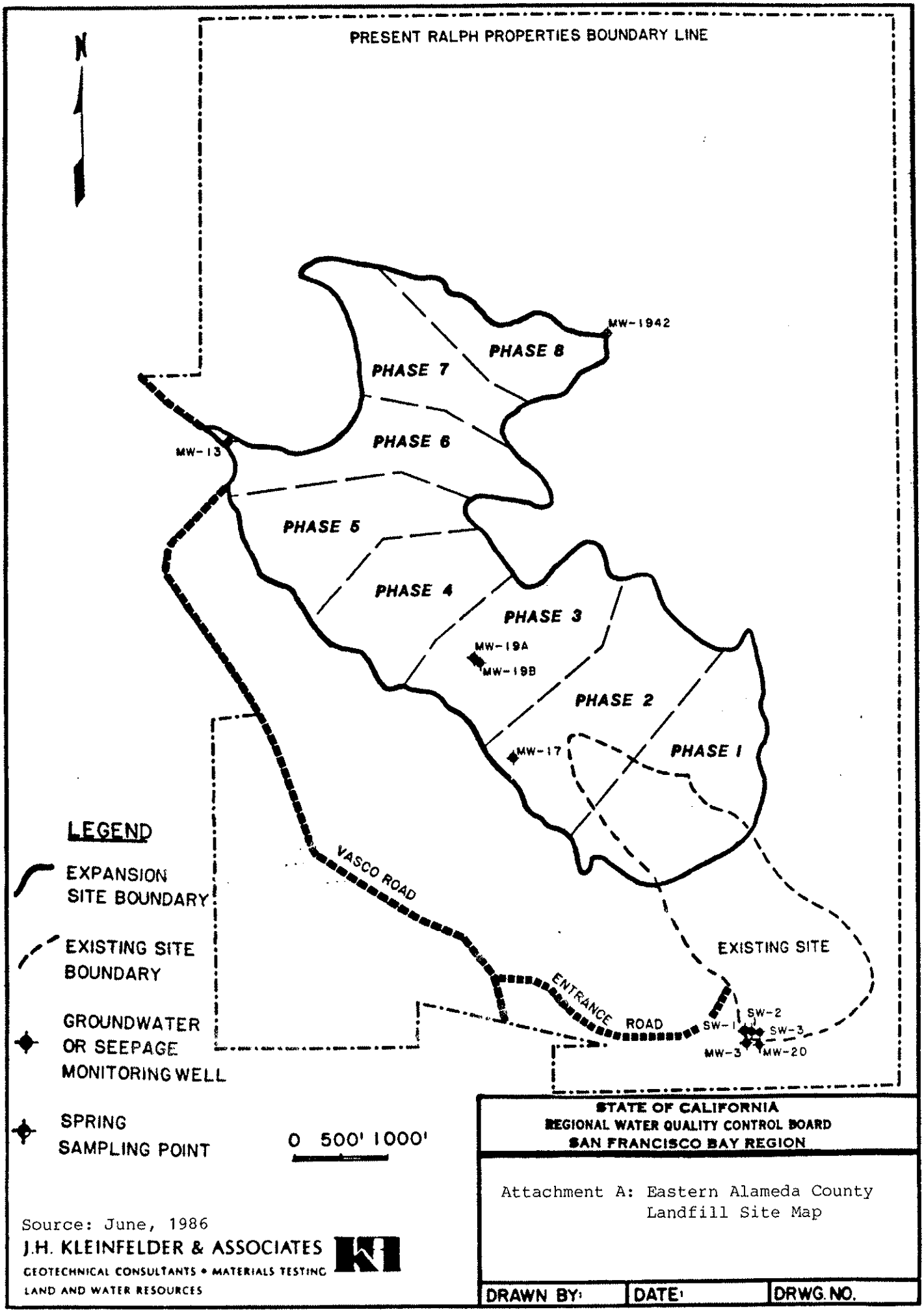
20. The discharger shall submit, by September 1, 1986, the as built final contour drawings for the closed areas of the existing disposal area. This shall include the certification by a registered engineer that the closed areas meet the requirements contained in this Board's Resolution No. 77-7 regarding depth and permeability of the final cover. This submittal shall include the locations of two monuments that have been constructed to be used to determine the location and elevation of wastes at the site. This report shall also provide evidence of an irrevocable closure fund, or other means, pursuant to Section 2580(f) of Subchapter 15 to ensure that there are sufficient funds available for the closure and post-closure maintenance of this site.

21. Prior to the disposal of any metal shredder waste at this site the discharger shall submit an amended operations plan that will provide for a separate waste disposal cell for these wastes. The waste cell should be designed to prevent leachate from decomposible wastes from coming into contact with the metal shredder waste and to ensure adequate protection of the underlying groundwater. All artificial barriers used to assure separation shall meet the standards contained in Sections 2532(b.3) and 2542(a,b,&c) of Subchapter 15. No metal shredder wastes shall be disposed of at this site until the Executive Officer approves of the amended operations plan.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 18, 1986.

Roger B. James
Executive Officer

Attachments: A) Site map
B) Self Monitoring Program


PRESENT RALPH PROPERTIES BOUNDARY LINE
N
MW-1942
PHASE 8
PHASE 7
PHASE 6
MW-13
PHASE 5
PHASE 4
PHASE 3
MW-19A
MW-19B
PHASE 2
MW-17
PHASE 1
VASCO ROAD
EXISTING SITE
ENTRANCE ROAD
SW-1
SW-2
SW-3
MW-3
MW-20
LEGEND
EXPANSION SITE BOUNDARY
EXISTING SITE BOUNDARY
GROUNDWATER OR SEEPAGE MONITORING WELL
SPRING SAMPLING POINT
0 500' 1000'
STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
Attachment A: Eastern Alameda County Landfill Site Map
Source: June, 1986
J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING
LAND AND WATER RESOURCES
DRAWN BY:
DATE:
DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

DEPAOLI EQUIPMENT COMPANY INC. AND
RALPH PROPERTIES, INC.
EASTERN ALAMEDA COUNTY LANDFILL (VASCO ROAD)

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Self-Monitoring Program is issued in accordance with Section C.6 of Regional Board Order No. 86-42.

The principal purposes of a self-monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage , and analyses shall be performed according to most recent version of Standard Methods for the Analysis of Wastewater.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters(s) refers to any water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill and the surface runoff from the site are considered the receiving waters.

3. Standard observations refer to:

   a. Receiving Waters

      1) Dicoloration and turbidity: description of color, source, and size of affected area.

      2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

      3) Evidence of beneficial use: presence of water associated wildlife.

      4) Flow rate.

      5) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

   b. Perimeter of the waste management unit.

      1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)

      2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

      3) Evidence of erosion and/or daylighted refuse.

   c. The waste management unit.

      1) Evidence of ponded water at any point on the waste management facility.

      2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

3) Evidence of erosion and/or daylighted refuse.

4. Standard analysis and measurements refer to:

a. pH
b. Electrical Conductivity (EC)
c. Total Disolved Solids (TDS)
d. Total Phenols
e. Chloride
f. Total Organic Carbon
g. Nitrate Nitrogen
h. Total Kjeldahl Nitrogen.
i. Water elevation in feet above Mean Sea Level.
j. EPA Method 601, identifying all peaks greated than 1 microgram/liter.
k. Settleable Solids ml/l/hr

D. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations according to the shcedule specified in Part B, and the requirements of Article 5 of Subchapter 15.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name off the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory.

5. Calculation of results.

6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Written self-monitoring reports shall be filed each calendar quarter by the fifteenth day of the following month. In addition an annual report shall be filed as indicated in F.2 The reports shall be comprised of the following:

   a. Letter of Transmittal

      A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the past quarter and actions taken or planned for correcting the violations, such as operation modifications and/or facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the corespondence transmitting such schedule will be satisfactory. If no violations have occurred in the last quarter this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer at the level of vicepresident or his duly authorized representitive if such representitive is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

   b. Each report shall include a compliance evaluation summary sheet. This sheet shall contain:

      1. The sample mean and the sample variance for all sample sets taken from all compliance points, and shall determine if the difference between the mean of each sample set and the water quality protection standard is significant at the 0.05 level using Cochran's Approximation to the Behrens-Fisher Student's t-testas described in Appendix II of Subchapter 15. The discharger may propose an alternative statistical procedure to be used in making this determination pursuant Section 2555(h)(3) of Subchapter 15. If a statistically significant difference is found this shall be reported as a suspected requirement violation in the letter of transmittal.

2. A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The laboratory director shall sign the laboratory statement of analytical results.

2. By January 31 of each year the discharger shall submit an annual report to the Regional Board covering the previous calendar year. This report shall contain:

a. Tabluar and graphical summaries of the monitoring data obtained during the previous year.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be neded to bring the discharger into full compliance with the waste discharge requirements.

c. A map showing the area, if any, in which filling has been completed during the previous calendar year.

d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.

e. An evaluation of the effectiveness of the leachate monitoring/control facilities.

3. A well drilling log shall be submitted for each sampling well established per this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

4. Pursuant to Provision No. 1 of this Order, prior to the placement of waste in any of the fill areas, the discharger shall submit to the Regional Board a report signed by a registered engineer or certified engineering geologist that will document compliance with all Provisions, Specifications, and Prohibitions contained in this Order. This report shall include the geologic map required in Provision No. 8 of this Order.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS .

A. Waste Monitoring

1. Record the total volume and weight of refuse in cubic yards and tons disposed of at the site during the month. Report this information quarterly.

2. Record the volume of fill completed, in cubic yards, showing locations and dimensions on a sketch or map. Report this information quarterly.

B. On-site Observations

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as deli-neated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly
P-1 thru P-'n' (per-imeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the disposal area.	Standard observations for the perimeter.	Weekly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the quarterly monitoring report.

C. Seepage Monitoring

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
S-1 thru S-'n' (seepage)	At any point(s) at which seepage is found occur-ring from the disposal area.	Standard observations for the perimeter, and standard analysis other than "i"	Daily until remedial action is taken and seepage ceases.

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
CU-1 (receiving waters, upstream)	Located in the main valley drainage 200 feet upstream from the upper-most point of seepage discharge(s)	Standard observation for receiving waters and standard analysis other than "i".	Daily, during a seepage event.
CD-1 thru CD-'n' (receiving waters down-stream)	Located in the main valley drainage 200 feet downstream of seepage discharge(s).	Same as receiving waters upstream.	Daily during a seepage event.

D. Groundwater Monitoring

STATION	DESCRIPTION	OBSERVATION/ ANALYSIS	FREQUENCY
MW-13, MW-17, MW-19A, MW-19B (ground-water back-ground)	Located as shown in the dischargers April 10, 1986 submittal	Standard analysis other than "j" and "k".	Once per quarter.
MW-3, MW-20, SW-1, SW-2, and SW-3	"	Standard analysis other than "k"	"

E. Leachate Monitoring

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
L-1 thru L-'n'	Leachate control facilities including sumps and wells to be installed	Depth of leachate built up at base of land-fill, and volume removed.	Once per quarter and at time of removal.

F. Surface Runoff Monitoring

STATION	DESCRIPTION	OBSERVATION/ ANALYSIS	FREQUENCY
MW-1942	Upgradient drainage at northeast corner of disposal area.	Standard observations for receiving waters and perimeter and standard analysis other than "b, e and i".	Once per quarter.
SR-1	At the toe of existing fill area. Down-stream of the leachate collection trench.	"	"
SR-2	At the west side of the landfill where the runoff enters the concrete lined channel that discharges under the main site access road at the junction of Vasco Road.	"	Monthly*

*This station shall be sampled monthly between the months of October and April. If there is no flow in this drainage channel this shall be reported in the quarterly self monitoring report.

2. CONTINGENCY REPORTING

A. A report shall be made in writing to the Regional Board within seven days if a statistically significant difference is found between a self-monitoring sample set and a WQPS. Notification shall indicate what WQPS(s) have been exceeded. The discharger shall immediately resample at the compliance point(s) where this difference has been found and analyze another sample set of at least four portions split in the laboratory from the source sample.

B. If resampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and WQPS(s) the discharger must submit to the Regional Board within 90 days an amended Report of Waste Discharge for establishment of a verification monitoring program meeting the requirements of Section 2557 of Subchapter 15. This submittal shall include the information required in Section 2556(b)(2) of Subchapter 15.

C. The discharger must notify the Regional Board within seven days if the verification monitoring program finds a statistically significant difference between samples from the verificatiobn monitoring program point of compliance and the WQPS(s).

D. If such a difference or differences are found by the verification monitoring program it will be concluded that the landfill is out of compliance with this Order. In this event the discharger shall submit within 180 days an amended Report of Waste Discharge requesting authorization to establish a corrective action program meeting the requirements of Section 2558 of Subchapter 15. This submittal shall include the information required in Section 2557(g)(3) of Subchapter 15.

E. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with this Board within five days. This report shall contain the following information: 1) a map showing the location(s) of discharge, 2) approximate flow rate, 3) nature of effects; i.e. all pertinent observations and analyses, and 4) corrective measures underway or proposed.

3. CONTINGENCY MONITORING

A. Methane gas monitoring probes shall be installed at the site boundary nearest any structure that is constructed within 1000 feet of the Waste Management Facility . These probes shall be monitored at least once per quarter and more frequently as determined at the time of installation, and results of such monitoring rerported in the quarterly self-monitoring reports.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements wstablished in Regional Board Order No. 86-42.

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.

Roger B. James
Executive Officer

June 20, 1986
Date Ordered